

Claims

1. A method for producing a modified propylene homopolymer, characterized in that a propylene homopolymer is modified by a radical initiator and an organic acid, the propylene homopolymer satisfying the conditions of (a) mmmm = 20 to 60 mol%, (b) $[rrrr/(1-mmmm)] \leq 0.1$, (c) $rmm > 2.5$ mol%, (d) $mm \times rr / (mr)^2 \leq 2.0$, and (e) the weight ratio (W25) of components eluted at 25°C or lower in a temperature programmed chromatography is 20 to 100% by weight.

2. The method for producing a modified propylene homopolymer according to claim 1, wherein the propylene homopolymer satisfies the further conditions of (f) the molecular weight distribution (M_w/M_n) measured by a gel permeation chromatography (GPC) is 5 or less, and/or (g) the limiting viscosity $[\eta]$ measured in tetralin at 135°C is 0.1 dL/g or more.

3. A method for producing a modified propylene copolymer, characterized in that a propylene copolymer is modified by a radical initiator and an organic acid, the propylene copolymer satisfying the condition of (h) the stereoregularity index (P) obtained by ^{13}C -NMR measurement is 55 to 90 mol%.

4. The method for producing a modified propylene copolymer according to claim 3, wherein the propylene copolymer satisfies the further conditions of (i) the molecular weight distribution (M_w/M_n) measured by a gel permeation chromatography (GPC) is 5 or less, and/or (j) the limiting viscosity $[\eta]$ measured in tetralin at 135°C is 0.1 dL/g or more.

5. The method for producing a modified propylene homopolymer or a modified propylene copolymer according to claim 1 or 3, wherein the propylene homopolymer or the propylene copolymer is modified in an organic solvent.

6. The method for producing a modified propylene homopolymer or a modified propylene copolymer according to claim 1 or 3, wherein the propylene homopolymer or the propylene copolymer is modified in the molten state.

7. The method for producing a modified propylene homopolymer or a modified propylene copolymer according to claim 1 or 3, wherein the radical initiator is a peroxide, and the organic acid is maleic anhydride, acrylic acid, or an alkyl acrylate.

8. The method for producing a modified propylene homopolymer or a modified propylene copolymer according to claim 1 or 3, wherein the propylene homopolymer or the propylene copolymer is modified in the presence of a styrene-based compound.

9. A modified propylene homopolymer obtained by the method according to claim 1.

10. A modified propylene copolymer obtained by the method according to claim 3.

11. An adhesive composition comprising the modified propylene homopolymer according to claim 9.

12. The hot-melt adhesive composition according to claim 11, wherein the adhesive composition comprises 20 to 99% by weight of the modified propylene homopolymer and 1 to 80% by weight of a tackifying resin.

13. An adhesive composition comprising the modified propylene copolymer according to claim 10.

14. The hot-melt adhesive composition according to claim 13, wherein the adhesive composition comprises 20 to 99% by weight

of the modified propylene copolymer and 1 to 80% by weight of a tackifying resin.